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10/714,935

11/18/2003

Kazuhiro Maeda

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ARLINGTON, VA 22203

EXAMINER

NGUYEN, JIMMY H

ART UNIT

PAPER NUMBER

2629

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/714,935

Applicant(s)

MAEDA ET AL.

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 12/07/2006.

Claims 1-20 are currently pending in the application. An action follows below:

Drawings

2. Figures 17-20 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following limitation, **“the circuit different from the unit circuits is a unit circuit for a shift register of a different system”** in claim 4 and **“the circuits different from the unit circuits comprise unit circuits for a different shift register”** in new claim 19, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to these claims, independent claim 17 recites a limitation, “circuits different from the unit circuits disposed in the physical spaces between adjacent unit circuits” in lines 6-7. Since the above underlined limitation may imply a single different circuit or plural different circuits between two adjacent unit circuits, it is considered that the invention is not clearly defined.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 17-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to these claims, as discussed in the rejection under 35 USC 112, second paragraph above, a limitation, “circuits different from the unit circuits disposed in the physical spaces between adjacent unit circuits” in lines 6-7 of claim 17, may require **plural different circuits** between two adjacent unit circuits, which is not supported in the original disclosure. Further, claim 17 recites “a shift register block comprising ... circuits different from the unit circuits” in lines 1-7; however, the original disclosure does not expressly teach **a shift register block comprising circuits** different from the unit circuits (FFs).

Additionally to claim 19, the original disclosure does not fairly teach a limitation, “the circuits different from the unit circuits comprise unit circuits for a different shift register”.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-10 and 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Azami (US 6,702,407 B2).

As to claims 1, 2, 8-10, 13, 17, and 20, the claimed invention reads on the Azami reference as follows: Azami discloses a display device (see FIG. 30), comprising a plurality of data signal lines (source signal lines 104/SL; see Fig. 30; col. 1, line 35; col. 7, line 37); a plurality of scanning signal lines (gate signal lines 105; see Fig. 30; col. 1, line 36) intersecting with the data signal lines (104/SL); pixels (Fig. 30, col. 1, line 39) provided for each pair of the

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data signal lines and the scanning signal lines; a scanning signal line driving circuit (a gate signal line driving circuit 102; see Fig. 30; col. 1, line 31) for driving the scanning signal lines; and a data signal line driving circuit (a source signal line driving circuit 101; see Figs. 3 and 30; col. 1, line 30) comprising a sampling section (a section including first and second latch portions, P/S conversion circuits, D/a conversion circuit, and a source line selecting circuits; see Fig. 3) for driving a plurality of data signal lines (SL) by sampling image data from an image signal according to a selection signal (output of a FF; see Fig. 3) sequentially outputted from a shift register block (a shift register block including flipflop circuits (FF); see Fig. 3), so as to transfer the image data to the data signal lines, and a shift register block (FFs).

Azami further teaches the shift register block (FFs) comprises at least one shift register (Fig. 3 shows each shift register comprising, e.g., 4 flipflop circuits (4 FFs) and cascading to another shift register (4 FFs)), each shift register comprising, e.g., 4 unit circuits (4 FFs) in a form of cascade-connected unit circuits (FFs) for sequentially outputting an input signal (output of flipflop circuit) in response to a clock signal, the unit circuits being linearly disposed so that physical spaces are provided between each adjacent pair of the unit circuits (see Fig. 3). Azami further teaches circuits (each circuit including an inverter, an NAND, and their connections; see Fig. 3) different from the unit circuits (FFs), disposed in the physical spaces between adjacent unit circuits, and having outputs, which are not supplied to any of the unit circuits (FFs) (see Fig. 3). Accordingly, all the limitations of these claims are read in the Azami reference.

As to claims 3-5, 18 and 19, the Azami circuit including each circuit including an inverter, an NAND, and their connections (see Fig. 3) may be considered as a processing circuit, which used output of one of the unit circuit; a unit circuit for a shift register of a different system; or a waveform processing circuit.

As to claims 6 and 7, Azami teaches the shift register block including signal paths for the shift registers of the respective systems, the signal path being provided separately for each of the shift registers of the respective systems on both sides of a circuit alignment of the unit circuits of the shift registers of the respective systems (see Fig. 3).

As to claim 12, Azami teaches that the image signal is a digital signal (DR0-DR2, DG0-DG2 and DB0-DB2; see Fig. 3; col. 7, lines 10-14) and the circuit (a circuit including an inverter, an NAND, and their connections; see Fig. 3) different from the unit circuits is made up an output circuit, a level shifter circuit, or a decoder circuit, which use outputs of the unit circuits (see Fig. 3).

As to claims 14-15, Azami teaches the data signal line driving circuit and the scanning signal line driving circuit formed on a substrate on which the pixels are formed (see col. 10, lines 33-42); the pixels, the data signal line driving circuit, and the scanning signal line driving circuit including active elements (TFTs), respectively, each of which is made of a polysilicon thin film transistor (see col. 10, lines 33-42 and col. 15, lines 6-27).

As to claim 16, Azami teaches the active elements formed on a glass substrate at a process temperature of not more than 600°C (see at least at col. 10, line 56 through col. 67; col. 11, lines 39-46; col. 15, lines 21-27).

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11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azami.

As to claim 11, Azami teaches that the circuit (a circuit including an inverter, an NAND, and their connections; see Fig. 3) different from the unit circuits comprises a waveform shaping circuit, a buffer circuit, or a sampling circuit, which uses outputs of the unit circuits (see Fig. 3). Azami further teach the driving system of the source signal line driving circuit including an analog system and a digital system (see col. 1, lines 43-47); therefore, while Azami does not exemplify that the image data being an analog mage data, but it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify the source signal line driving circuit of Azami to drive an analog image data since the image data can be represented by either one of them and it would not bring any unexpected result.

Response to Arguments

13. Applicant's arguments, see the "Remarks" section, of the amendment filed on 12/07/2006, with respect to the rejections under 35 USC 102 and 103 in the Office Action dated 07/07/2006, have been fully considered and are persuasive in light of the amendments to independent claims 1, 8, 9, and 13. However, upon further consideration, the new grounds of rejections are made above.

Conclusion

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14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

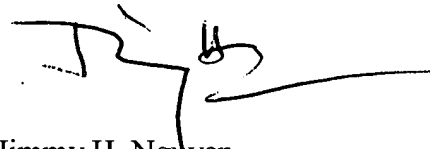
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
March 29, 2007

A handwritten signature in black ink, appearing to read 'JH Nguyen', with a long horizontal line extending to the right.

Jimmy H. Nguyen
Primary Examiner
Technology Division: 2629